

### REMARKS

Upon entry of this amendment, claims 1-6, 14, 46-51 and 54-55 are pending in the instant application. In this response, claim 14 has been amended. Support for this amendment can be found, for example, on page 3, lines 14-15 of the instant specification. Accordingly, no new matter has been added.

### INFORMATION DISCLOSURE STATEMENT

Applicants acknowledge the Examiner's statement that the Information Disclosure Statement filed July 31, 2002 has been considered as to the merits.

### CLAIM REJECTIONS UNDER 35 USC § 112, FIRST PARAGRAPH, ARE OVERCOME.

Claim 14 has been rejected under 35 U.S.C. § 112, first paragraph for allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor(s), at the time the application was filed, had possession of the claimed invention (Written Description Rejection). The Examiner asserts that although a sequence consisting of SEQ ID NO: 509 meets the written description provisions of 35 U.S.C. § 112, first paragraph, claims that encompass hybridizing sequences, variants or fragments of SEQ ID NO: 509 fail to meet the written description provisions.

Applicants have amended claim 14 to specify that the sequence must be a complement of SEQ ID NO:509. One of ordinary skill in the art at the time the instant application was filed would define a complement of a nucleic acid as a second nucleic acid that hybridizes with the first nucleic acid and is of the same length as the first nucleic acid. This sequence has been disclosed so that one of ordinary skill in the art could determine it from the specification, *i.e.* it is the Watson-Crick base pair complement of SEQ ID NO:509. Therefore, Applicants request that this rejection be withdrawn.

**CLAIM REJECTIONS UNDER 35 U.S.C. § 101, ALONE OR IN COMBINATION WITH 35 U.S.C. § 112, FIRST PARAGRAPH, ARE OVERCOME.**

Claims 1-6, 14, 46-51, and 54-55 have been rejected under 35 U.S.C. § 101 for allegedly not being supported by either a specific, substantial, and credible utility or, in the alternative, a well-established utility. Applicants traverse.

The Examiner alleges that additional experimentation would have to be performed in order to use SEQ ID NO:509 in forensics. “For example, further research would have to be performed to determine if the polymorphic site/sequence represented by SEQ ID NO:509 is one found in a particular subset of the population, such that its presence or absence renders meaningful (*i.e.* useful) information to one attempting to determine paternity or the presence of an individual at a crime site (*e.g.* forensic testing).” (Sentence bridging pages 3 and 4 of the Office Action). Applicants traverse.

By the Examiner’s above quoted definition of research, the profession of forensic science relating to the use of DNA to identify suspects would be excluded from patent protection because it includes performing research on a sample obtained from a person who is in a particular subset of the population. One cannot know if a person at a crime scene, or a man taking a paternity test has a particular single nucleotide polymorphism (SNP) in their genome until the DNA at a crime scene or in a child is analyzed. Instead, the claimed SNP will either be present or absent in the blood of the persons and samples being compared. They will either match or won’t. This is not experimentation. While this procedure requires laboratory methods such as PCR, for example, to perform it, Applicants submit that this is not research on the nucleic acid to ascertain the utility of the nucleic acid. The instant application demonstrates how a SNP was found in SEQ ID NO:509, thus making it an appropriate tool to be used in forensics. The more SNPs available to a crime lab, the greater certainty they have in distinguishing those present at a crime scene from those not present. This is a specific, substantial and credible utility for SEQ ID NO:509. Its utility in this respect does not require further elucidation of its frequency in a population.

The Examiner seems to argue that any nucleic acid could be used in forensics, and so the Applicants have not determined anything about SEQ ID NO:509 to separate it from the

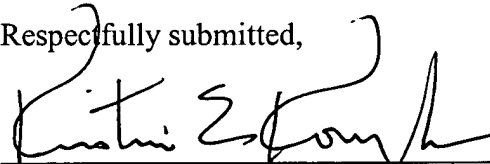
broad genus of nucleic acids in terms of its appropriateness in use for forensics. Applicants again traverse. SEQ ID NO:509 has been found to be a human sequence containing a SNP. This information makes SEQ ID NO:509 appropriate for use in forensics, while other nucleic acid sequences that do not have SNPs, whether or not they are human, are not appropriate for forensics. Applicants submit that this is a specific and real world utility for this sequence, and therefore, request that this rejection be withdrawn.

Claims 1-6, 14 and 46-51, and 54-55 are also rejected under 35 U.S.C. § 112, first paragraph for alleging that since the invention is not supported by either a specific or substantial asserted utility, one skilled in the art would not know how to use the claimed invention.

Applicants traverse. For the reasons set forth above, Applicants submit that the claimed invention has a specific and substantial or well-established utility. Therefore, this rejection is now moot as it applies to pending claims 1-6, 14 and 46-51, and 54-55 and should be withdrawn.

### CONCLUSION

On the basis of the foregoing amendments, Applicants respectfully submit that the pending claims are in condition for allowance. If there are any questions regarding these amendments and remarks, the Examiner is encouraged to contact the undersigned at the telephone number provided below.

Respectfully submitted,  


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